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LAHIVE & COCKFIELD, LLP.
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BOSTON, MA 02109

EXAMINER

CHAVIS, JOHN Q

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 03/11/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application

09/852,113

Applicant(s)

TAYLOR, JULIAN S.

Examiner

John Chavis

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5-9-01, 3-12-02 and 9-12-03.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-52 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 9-12-03 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-52 are rejected under 35 U.S.C. 102(e) as being anticipated by Kelley (US 2002/0174422).

CLAIMS:

Kelley

<p>1. A method for determining patches to apply to a computer system wherein the patches includes content to add to the computer, comprising:</p> <p>providing a realization list of realization identifiers corresponding to realizations associated with the computer,</p> <p>wherein each realization defines a state of the computer;</p> <p>providing a realization database of</p>	<p>See the 1st sentence of the abstract and the title of the invention.</p> <p>See again the 1st sentence of the abstract.</p> <p>See page 1, the last sentence of sect 0006 and the last three sentences of sect 0009.</p> <p>Note that outdated items (state of the computer) are identified above.</p>
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<p>realization objects,</p> <p>wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization;</p> <p>accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list;</p> <p>determining all the patches on the accessed patch lists; and</p> <p>determining from the determined patches on the accessed patch lists those patches that are capable of being installed on the computer.</p> <p>2. The method of claim 1, wherein the patch content to add to the computer is capable of comprising one of: a new program; an upgrade to an installed program; a fix to an installed program; and documentation.</p>	<p>See page 2 sect. 0013.</p> <p>See the cited portions above.</p> <p>See again sect.0013 and the last two sentences of sect. 0017.</p> <p>See again sect. 0017.</p> <p>See sect. 0024 and note how dependencies and operating system types, etc. are considered for installations.</p> <p>This feature is considered inherent to upgrading and therefore inherent in Kelley' s system; however, see sect. 0034.</p>
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3. The method of claim 1, further comprising: providing a searchable realization index in the realization database; and

for each realization identifier on the realization list, using the realization identifier to access an entry in the realization index, wherein each entry in the realization index identifies one corresponding realization object in the realization database, and wherein the entry is used to access the corresponding realization object in the realization database.

4. The method of claim 3, wherein the realization index implements a binary tree index.

5. The method of claim 1, further comprising: presenting information on an output device of those determined patches capable of being installed on the computer; and receiving user selection of one or more patches to add to the

See page 5 sects. 0042-0043.

See sect. 0007, 0036, and 0038, which inherently enables backing out (0048) in an orderly tree like fashion.

See sect. 0051 on page 6.

computer indicated in the presented information.

6. The method of claim 5, further comprising: requesting from a server the patch content for the user selected patches; receiving the patch content for the selected patches from the server; and applying the patch content to the computer.

7. The method of claim 1, further comprising: providing a searchable patch database including patch objects corresponding to one patch of content and including a patch expression set comprised of one or more patch expressions; accessing from the patch database those patch objects for the determined patches on the accessed patch lists; and executing the patch expression sets in the accessed patch objects to determine patches identified by the accessed patch objects capable of being installed on the computer.

See sect. 0050 on page 6.

See the rejections of claims 1-6 above.

8. The method of claim 7, further comprising: generating a computer object including configuration information on components in the computer, wherein the executed patch expression sets are capable of processing configuration information and the realization list to determine whether the patch is capable of being installed on the computer.

See the rejections of claims 1-6 above.

9. The method of claim 7, further comprising: providing a searchable patch index into the patch database, wherein each entry in the patch index identifies one corresponding patch object in the patch database representing one patch, wherein the patch index entry is used to access the corresponding patch object in the patch database.

See the rejections of claims 1-6 above.

10. The method of claim 9, wherein each patch is associated with one patch identifier, wherein the entries in the patch index include the patch identifier of the patch represented by the corresponding patch object, further comprising: searching the patch index for those entries including

See the rejections of claims 1-6 above.

patch identifiers matching the patch identifiers of the determined patches from the accessed patch lists.	

In reference to claims 11-12, see the rejection of the method of claims 6-7 in view Of Kelley' s figures 1 and 2.

As per claims 13-15, see the system (network) administrator in sect. 0040 in view of its implementation in sects. 0041-0043 and claim 6 above.

The features of claim 16 are taught by claim 11 above.

Claims 17-25 are taught via claims 2-10.

In reference to claims 26-27, see the rejection of the method of claims 11-12 in view Of Kelley' s figures 1 and 2.

As per claim 28, see the system (network) administrator in sect. 0040 in view of its implementation in sects. 0041-0043 and claim 6 above.

The features of claim 29 are taught by claim 7 above.

Claim 30 is taught via claim 5.

In reference to claims 31-40, see the rejection of the method of claims 6-10 in view Of Kelley' s figures 1 and 2.

As per claims 13-15, see the system (network) administrator in sect. 0040 in view of its implementation in sects. 0041-0043 and claim 6 above.

The features of claim 16 are taught by claim 11 above.

Claims 17-25 are taught via claims 2-10.

In reference to claims 41-42, see the rejection of the method of claims 6-7 in view Of Kelley' s figures 1 and 2 and sects. 0050-0052.

As per claims 43-44, see the system (network) administrator in sect. 0040 in view of its implementation in sects. 0041-0043 and claim 6 above.

The features of claim 45 are taught by sects. 0024 and 0041-0043.

Claim 46 is taught via claim 11.

In reference to claims 47-48, see the rejection of the method of claims 3-4 in view Of Kelley' s figures 1 and 2.

As per claims 49, see sects. 0041-0043 and claim 7 above.

The features of claim 50-51 are taught by claims 8-9 above.

Claims 17-25 are taught via claims 2-10.

In reference to claim 52, see the rejection of claim 11 above.

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Chavis whose telephone number is (703) 305-9665. The examiner can normally be reached on 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 305-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jqc
March 8, 2004



JOHN CHAVIS
PATENT EXAMINER
ART UNIT 2124

US-CL-CURRENT: 717/168; 717/174

CLAIMS:

<p>1. A method for determining patches to apply to a computer system wherein the patches includes content to add to the computer, comprising:</p> <p>providing a realization list of realization identifiers corresponding to realizations associated with the computer,</p> <p>wherein each realization defines a state of the computer;</p> <p>providing a realization database of realization objects,</p> <p>wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization;</p> <p>accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list;</p>	
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determining all the patches on the
accessed patch lists; and

determining from the determined patches
on the accessed patch lists those patches
that are capable of being installed on the
computer.

2. The method of claim 1, wherein the
patch content to add to the computer is
capable of comprising one of: a new
program; an upgrade to an installed
program; a fix to an installed program; and
documentation.

3. The method of claim 1, further
comprising: providing a searchable
realization index in the realization
database; and

for each realization identifier on the
realization list, using the realization
identifier to access an entry in the
realization index, wherein each entry in the
realization index identifies one
corresponding realization object in the
realization database, and wherein the
entry is used to access the corresponding

realization object in the realization database.

4. The method of claim 3, wherein the realization index implements a binary tree index.

See sect 0007, 0036, 0038, which are inherent to enable backing out (0048)

5. The method of claim 1, further comprising: presenting information on an output device of those determined patches capable of being installed on the computer; and receiving user selection of one or more patches to add to the computer indicated in the presented information.

See sect 0051 on page 6.

6. The method of claim 5, further comprising: requesting from a server the patch content for the user selected patches; receiving the patch content for the selected patches from the server; and applying the patch content to the computer.

See sect 0050 on page 6.

7. The method of claim 1, further

comprising: providing a searchable patch database including patch objects corresponding to one patch of content and including a patch expression set comprised of one or more patch expressions; accessing from the patch database those patch objects for the determined patches on the accessed patch lists; and executing the patch expression sets in the accessed patch objects to determine patches identified by the accessed patch objects capable of being installed on the computer.

8. The method of claim 7, further comprising: generating a computer object including configuration information on components in the computer, wherein the executed patch expression sets are capable of processing configuration information and the realization list to determine whether the patch is capable of being installed on the computer.

9. The method of claim 7, further comprising: providing a searchable patch index into the patch database, wherein

each entry in the patch index identifies one corresponding patch object in the patch database representing one patch, wherein the patch index entry is used to access the corresponding patch object in the patch database.

10. The method of claim 9, wherein each patch is associated with one patch identifier, wherein the entries in the patch index include the patch identifier of the patch represented by the corresponding patch object, further comprising: searching the patch index for those entries including patch identifiers matching the patch identifiers of the determined patches from the accessed patch lists.

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11. A method for determining patches to apply to a computer system, wherein the patches include content to add to the computer, comprising: generating a computer object including configuration information on components in the computer and a realization list of realization identifiers corresponding to realizations associated with the computer, wherein each realization defines a state of the computer; downloading a

realization database of realization objects from a patch server, wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization; accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list; determining all the patches on the accessed patch lists; and determining from the determined patches on the accessed patch lists those patches that are capable of being installed on the computer.

12. The method of claim 11, wherein the steps of downloading the realization database, accessing the patch lists, determining all the patches on the accessed patch lists, and determining those patches capable of being installed on the computer are performed in the computer.

13. The method of claim 11, wherein a network administrator system includes a plurality of computer objects associated with a plurality of computers on a network, wherein each computer object includes the configuration information and the realization list for one computer on the network, and wherein the steps of downloading the realization database, accessing the patch lists, determining all the patches on the accessed patch lists, and determining those patches capable of being installed on the computer are performed on the network administrator system.

14. The method of claim 11, wherein the steps of accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list are performed for the realization lists in the computer objects for the computers on the network, wherein the patches are determined from the patch lists for the computer objects, and wherein the determined patches on the accessed patch lists are those patches that are capable of being installed on the computers in the network.

15. The method of claim 14, further comprising: generating a list of all patches determined to be compatible with the installed components of the computers on the network; and rendering the list of patches on an output device to enable a user of the network administrator system to select the code of one or more of the patches on the list to install on one or more of the computers in the network.

16. A system for determining patches to apply to a computer, wherein the patches include content to add to the computer, comprising: means for providing a realization list of realization identifiers corresponding to realizations associated with the computer, wherein each realization defines a state of the computer; means for providing a realization database of realization objects, wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization; means for accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list; means for determining all the patches on the accessed patch lists; and means for determining from the determined patches on the accessed patch lists those patches that are capable of being installed on the computer.

17. The system of claim 16, wherein the patch content to add to the computer is capable of comprising one of: a new program; an upgrade to an installed program; a fix to an installed program; and documentation.

18. The system of claim 16, further comprising: means for providing a searchable realization index in the realization database; and means for using the realization identifier to access an entry in the realization index for each realization identifier on the realization list, wherein each entry in the realization index identifies one corresponding realization object in the realization database, and wherein the entry is used to access the corresponding realization object in the realization database.

19. The system of claim 18, wherein the realization index implements a binary tree index.

20. The system of claim 16, further comprising: an output device; means for presenting information on then output device of those determined patches capable of being installed on the computer; and means for receiving user selection of one or more patches to add to the computer indicated in the presented information.

21. The system of claim 20, wherein the system is in communication with a server, further comprising: means for requesting from the server the patch content for the user selected patches; means for receiving the patch content for the selected patches from the server; and means for applying the patch content to the computer.

22. The system of claim 16, further comprising: means for providing a searchable patch database including patch objects corresponding to one patch of content and including a patch expression set comprised of one or more patch expressions; means for accessing from the patch database those patch objects for the determined patches on the accessed patch lists; and means for executing the patch expression sets in the accessed patch objects to determine patches identified by the accessed patch objects capable of being installed on the computer.

23. The system of claim 22, further comprising: means for generating a computer object including configuration information on components in the computer, wherein the executed patch expression sets are capable of processing configuration information and the realization list to determine whether the patch is capable of being installed on the computer.

24. The system of claim 22, further comprising: means for providing a searchable patch index into the patch database, wherein each entry in the patch index identifies one corresponding patch object in the patch database representing one patch, wherein the patch index entry is used to access the corresponding patch object in the patch database.

25. The system of claim 24, wherein each patch is associated with one patch identifier, wherein the entries in the patch index include the patch identifier of the patch represented by the corresponding patch object, further comprising: means for searching the patch index for those entries including patch identifiers matching the patch identifiers of the determined patches from the accessed patch lists.

26. A system for determining patches to apply on a computer, wherein the patches include content to add to the computer, comprising: means for generating a computer object including configuration information on components in the computer and a realization list of realization identifiers corresponding to realizations associated with the computer, wherein each realization defines a state of the computer; means for downloading a realization database of realization objects from a patch server, wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization; means for accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list; means for determining all the patches on the accessed patch lists; and means for determining from the determined patches on the accessed patch lists those patches that are capable of being installed on the computer.

27. The system of claim 26, wherein the means for downloading the realization database, accessing the patch lists, determining all the patches on the accessed patch lists, and determining those patches capable of being installed on the computer are performed in the computer.

28. The system of claim 26, further comprising: a network administrator system including a plurality of computer objects associated with a plurality of computers on a network, wherein each computer object includes the configuration information and the realization list for one computer on the network, and wherein the means for downloading the realization database, accessing the patch lists, determining all the

patches on the accessed patch lists, and determining those patches capable of being installed on the computer are performed on the network administrator system.

29. The system of claim 26, wherein the means for accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list are performed for the realization lists in the computer objects for the computers on the network, wherein the patches are determined from the patch lists for the computer objects, and wherein the determined patches on the accessed patch lists are those patches that are capable of being installed on the computers in the network.

30. The system of claim 29, further comprising: an output device; means for generating a list of all patches determined to be compatible with the installed components of the computers on the network; and means for rendering the list of patches on the output device to enable a user of the network administrator system to select the code of one or more of the patches on the list to install on one or more of the computers in the network.

31. An article of manufacture for determining patches to apply to a computer system, wherein the patches includes content to add to the computer, by: providing a realization list of realization identifiers corresponding to realizations associated with the computer, wherein each realization defines a state of the computer; providing a realization database of realization objects, wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization; accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list; determining all the patches on the accessed patch lists; and determining from the determined patches on the accessed patch lists those patches that are capable of being installed on the computer.

32. The article of manufacture of claim 31, wherein the patch content to add to the computer is capable of comprising one of a new program; an upgrade to an installed program; a fix to an installed program; and documentation.

33. The article of manufacture of claim 31, further comprising: providing a searchable realization index in the realization database; and for each realization identifier on the realization list using the realization identifier to access an entry in the realization index, wherein each entry in the realization index identifies one corresponding realization object in the realization database, and wherein the entry is used to access the corresponding realization object in the realization database.

34. The article of manufacture of claim 33, wherein the realization index implements a binary tree index.

35. The article of manufacture of claim 31, further comprising: presenting information on an output device of those determined patches capable of being installed on the computer; and receiving user selection of one or more patches to add to the computer indicated in the presented information.

36. The article of manufacture of claim 35, further comprising: requesting from a server the patch content for the user selected patches; receiving the patch content for the selected patches from the server; and applying the patch content to the computer.

37. The article of manufacture of claim 31, further comprising: providing a searchable patch database including patch objects corresponding to one patch of content and including a patch expression set comprised of one or more patch expressions; accessing from the patch database those patch objects for the determined patches on the accessed patch lists; and executing the patch expression sets in the accessed patch objects to determine patches identified by the accessed patch objects capable of being installed on the computer.

38. The article of manufacture of claim 37, further comprising: generating a computer object including configuration information on components in the computer, wherein the executed patch expression sets are capable of processing configuration information and the realization list to determine whether the patch is capable of being installed on the computer.

39. The article of manufacture of claim 37, further comprising: providing a searchable patch index into the patch database, wherein each entry in the patch index identifies one corresponding patch object in the patch database representing one patch, wherein the patch index entry is used to access the corresponding patch object in the patch database.

40. The article of manufacture of claim 39, wherein each patch is associated with one patch identifier, wherein the entries in the patch index include the patch identifier of the patch represented by the corresponding patch object, further comprising: searching the patch index for those entries including patch identifiers matching the patch identifiers of the determined patches from the accessed patch lists.

41. An article of manufacture for determining patches to apply to a computer system, wherein the patches include content to add to the computer, comprising: generating a computer object including configuration information on components in the computer and a realization list of realization identifiers corresponding to realizations associated with the computer, wherein each realization defines a state of the computer; downloading a realization database of realization objects from a patch server, wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization; accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list; determining all the patches on the accessed patch lists; and determining from the determined patches on the accessed patch lists those patches that are capable of being installed on the computer.

42. The article of manufacture of claim 41, wherein the steps of downloading the realization database, accessing the patch lists, determining all the patches on the accessed patch lists, and determining those patches capable of being installed on the computer are performed in the computer.

43. The article of manufacture of claim 41, wherein a network administrator system includes a plurality of computer objects associated with a plurality of computers on a network, wherein each computer object includes the configuration information and the realization list for one computer on the network, and wherein the steps of downloading the realization database, accessing the patch lists, determining all the patches on the accessed patch lists, and determining those patches capable of being installed on the computer are performed on the network administrator system.

44. The article of manufacture of claim 41, wherein the steps of accessing from the realization database the patch lists of those realization objects whose realization identifiers match the realizations identifiers on the realization list are performed for the realization lists in the computer objects for the computers on the network, wherein the patches are determined from the patch lists for the computer objects, and wherein the determined patches on the accessed patch lists are those patches that are capable of being installed on the computers in the network.

45. The article of manufacture of claim 44, further comprising: generating a list of all patches determined to be compatible with the installed components of the computers on the network; and rendering the list of patches on an output device to enable a user of the network administrator system to select the code of one or more of the patches on the list to install on one or more of the computers in the network.

46. A computer readable medium including data structures used to determining patches to apply to a computer system, wherein the patches includes content to add to the computer, comprising: a realization list of realization identifiers corresponding to realizations associated with the computer, wherein each realization defines a state of

the computer; a realization database of realization objects, wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization, wherein the patch lists are accessed from the realization objects in the realization database whose realization identifiers match the realizations identifiers on the realization list, wherein a determination is made of all the patches on the accessed patch lists, and wherein a determination is made from the determined patches on the accessed patch lists of those patches that are capable of being installed on the computer.

47. The computer readable medium of claim 46, further comprising: a searchable realization index in the realization database, wherein the realization identifier for each realization on the realization list is used to access an entry in the realization index, wherein each entry in the realization index identifies one corresponding realization object in the realization database, and wherein the entry is used to access the corresponding realization object in the realization database.

48. The computer readable medium of claim 47, wherein the realization index implements a binary tree index.

49. The computer readable medium of claim 46, further comprising: a searchable patch database including patch objects corresponding to one patch of content and including a patch expression set comprised of one or more patch expressions, wherein the patch objects for the determined patches on the accessed patch lists are accessed from the patch database, and wherein the patch expression sets in the accessed patch objects are executed to determine patches identified by the accessed patch objects capable of being installed on the computer.

50. The computer readable medium of claim 49, further comprising: a computer object including configuration information on components in the computer, wherein the executed patch expression sets are capable of processing configuration information and

the realization list to determine whether the patch is capable of being installed on the computer.

51. The computer readable medium of claim 49, further comprising: a searchable patch index into the patch database, wherein each entry in the patch index identifies one corresponding patch object in the patch database representing one patch, wherein the patch index entry is used to access the corresponding patch object in the patch database.

52. A computer readable medium including data structures used for determining patches to apply to a computer system, wherein the patches include content to add to the computer, comprising: a computer object including configuration information on components in the computer and a realization list of realization identifiers corresponding to realizations associated with the computer, wherein each realization defines a state of the computer; a realization database of realization objects from a patch server, wherein each realization object is uniquely identified by a realization identifier of one realization and includes a patch list indicating those patches whose installation relates to the computer state defined by the realization, wherein patch lists are accessed from those realization objects in the realization database whose realization identifiers match the realizations identifiers on the realization list, wherein a determination is made of all the patches on the accessed patch lists, and wherein a determination is made from the determined patches on the accessed patch lists of those patches that are capable of being installed on the computer.